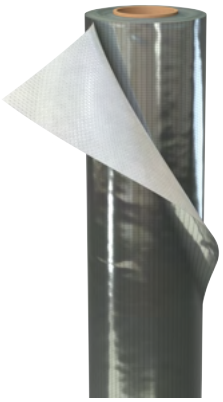
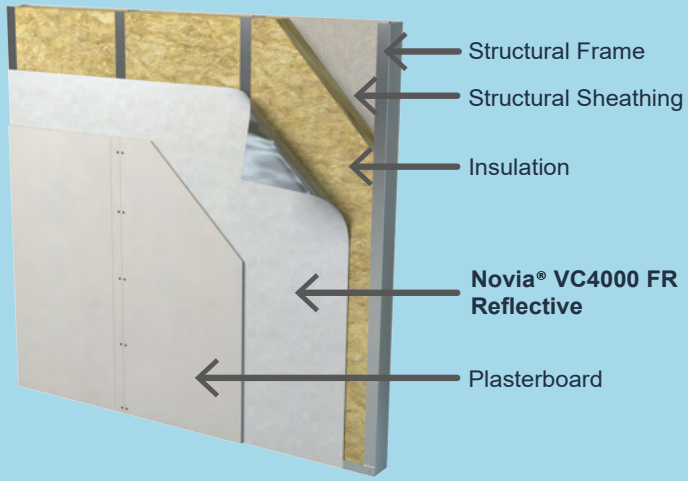
# VC4000 FR Reflective

B-s1, d0 Fire Rated Air & Vapour Control Layer

**Novia® VC4000 FR Reflective** is a premium quality, high performance, Class B* flame resistant, reflective Air & Vapour Control Layer (AVCL). The material meets EN 13984 and is UKCA marked. **Novia® VC4000 FR** complies to EN 13501-1 Fire Classification Class B-s1, d0* and is suitable for use in high rise applications. **Novia® VC4000 FR** has excellent moisture vapour resistance and is suitable for use in any insulated wall or roof application where high moisture vapour resistance is required. **Novia® VC4000 FR** also has a reflectivity of 98%, which can achieve an additional R-value of 0.74 m²K/W when correctly installed. Due to the use of high performance materials, **Novia® VC4000 FR** will provide a very low moisture vapour permeability solution. The product is reflective on one side, white on the other, with no text or images.



## Example Construction




**Key Features:**

- UKCA marked to EN 13984
- EN 13501-1 Fire Classification B-s1, d0
- Suitable for use in high rise applications
- 98% reflectivity, which can improve both U and r values when facing a 25mm cavity
- Low moisture vapour permeability which minimises interstitial condensation
- Improves insulation performance, reducing energy costs
- Helps towards BS 5250 requirements

Visit our website to view individual product datasheets for our full portfolio of EN 13501-1 Fire Classification A and B AVCLs and breather membranes, that are all suitable for use in high rise applications.
www.novia.co.uk/firerated

| | Value | Units | Test Method |
|---|---|---|---|
| Standard Width | 1.5 | m | |
| Roll Length | 50 | m | |
| Roll Weight | 13 | kg | |
| Nominal weight | 160 | g/m² | EN 1849-2 |
| Tensile stength MD / CD | 450 / 430 | N/50mm | EN 12311-1 |
| Elongation MD / CD | 22 / 18 | % | EN 12311-1 |
| Tear resistance MD / CD | 435 / 455 | N | EN 12310-1 |
| Water vapour permability in Sd | 4000 | m | EN 1931 |
| Reflectivity | 98 | % | EN 15976 |
| Resistance to water penetration | Pass | | EN 1928 |
| Reaction to fire | B-s1, d0* | Class | EN 13501-1 |

*Valid for substrates with fire class A2-s1, d0 or A1 such as 12mm plasterboard, with no cavity between product and substrate. Product tested to EN 13501-1.




Use the QR code to link direct to the product webpage.

NOTE: COSHH safety datasheets available upon request.

Date Published: November 2026. Novia's most recently published datasheet supercedes any previous versions which may still be in circulation.

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## Generic Novia AVCL Information

Air and Vapour Control Layers (AVCLs) should be installed on the warm side of the building envelope, within all insulated wall or roof applications. AVCLs should normally be used in conjunction with Novia breather membranes which are installed on the cold side of the building envelope, before cladding is installed.

Novia AVCLs will only perform correctly if properly installed. It is therefore essential to use Novia AVCL tapes, as part of a two-tape sealing system. For best results, **Novia® Double-Sided Butyl Tape** should be used in conjunction with an additional **Novia® Single-Sided Lap Tape (SSLT).** If the AVCL is not installed using the Novia two-tape sealing system, it will not provide the necessary building design outcomes; a poorly installed AVCL will not prevent structural damage from unwanted interstitial condensation, which can lead to future structural failures (such as rotten timbers) and can also reduce the thermal performance of the insulation. One of the major causes of interstitial condensation problems within finished buildings is due to poorly installed membranes, and can often be due to the use of incorrect tapes.

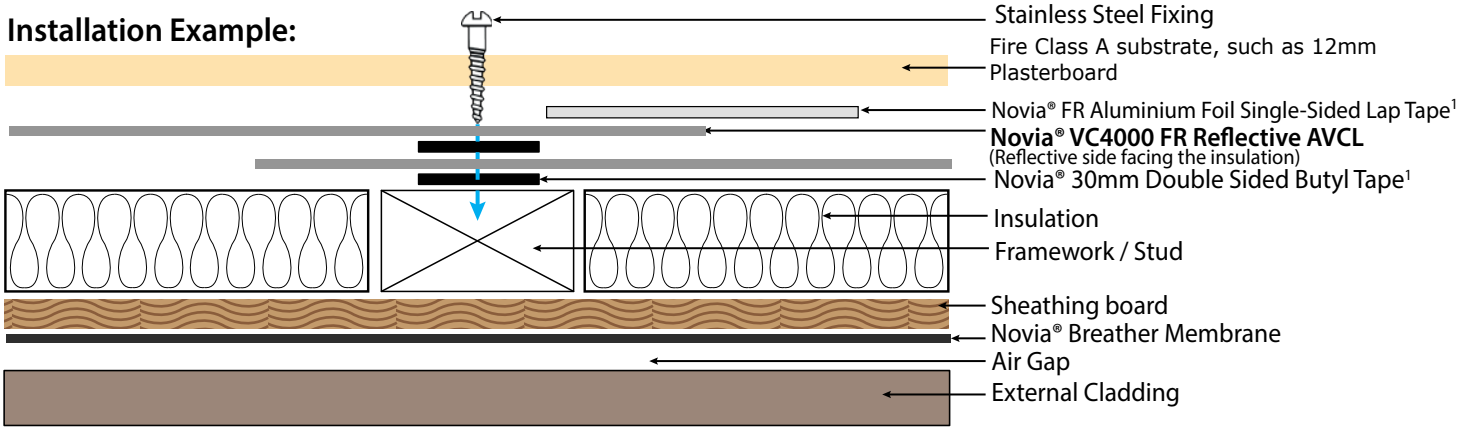
## Installing Novia® VC4000 FR

We recommend the use of **Novia® 30mm wide Double-Sided Butyl Tape** and **Novia® 96mm wide FR Aluminium Foil Single-Sided Lap Tape,** our Class B-s1,d0 lap tape. In addition, **Novia® Airseal 310 FR AVCL sealant** can be used in all applications where additional sealing is required, for example internal corners, floor sections or window reveals. See individual tape and sealant datasheets for further product specific information*

*Note that tapes and sealants are subject to max/min installation temperatures.

- We recommend that in order to improve overall airtightness, Novia butyl tape is pre-applied to the construction framework on areas where a mechanical fixing is to be made. By preparing the installation in this way when mechanically fixing either the AVCL membrane to itself, and/or to the final internal lining, an airtight seal will be maintained.
- Using suitable galvanised or stainless steel mechanical fixings, attach the membrane to the framework structure, with the aluminium reflective face against the insulation, facing away from the internal lining. The white backing of the membrane should be seen facing the inside of the construction. The internal lining, such as Class A plasterboard, should overlay the white backing of the membrane, without an air gap or cavity.
- All membrane joints should have a 150mm overlap and, where possible, be situated on a stud, rafter, timber or other framework.
- Care should be taken to ensure that the membrane is not damaged during installation, and that all service entry points are properly sealed with Novia tapes.
- It is possible to improve thermal performance and achieve an additional R-value of up to 0.74 m²/KW when **Novia® VC4000 FR** is installed with the reflective side facing a minimum 25mm air cavity and battens are positioned in front of the membrane. The internal lining, such as Class A plasterboard, should be installed directly against the white backing of the membrane, without an air gap or cavity, to maintain the membrane's Class B-s1,d0 fire classification.

**Installation Example:**




[1] Novia FR Aluminium Foil Tape acheives Fire Classification B-s1,d0 in accordance with EN 13501-1. Novia Double-Sided Butyl Tape is not fire rated. Tapes & sealants are excluded under relevant sections of "Fire Safety: Approved Document B". Please see individual tape datasheets for more product specific information.

*Please note - this diagram is not to scale and should only be used as guidance for the installation.*

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B-s1, d0 Fire Rated Air & Vapour Control Layer

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## General Notes for Air & Vapour Control Layers

The passage of water vapour through a building envelope needs to be correctly managed by Air & Vapour Control Layers (AVCLs) to limit unwanted and damaging condensation within the interstitial layer (the layer of the external building fabric, walls/roof and insulation). Interstitial condensation occurs over the winter in the UK as heavily moisture-laden warm air, generated from within the structure, moves outwards through the building envelope and cools, unless an AVCL is correctly installed. Due to a typical 20°C to 25°C temperature difference between the internal and external environmental conditions, warm, moist air would cool and condense as it moved through the building envelope. This is because cool air holds much less moisture compared to warm air. If warm air already has a high humidity it will release any excess moisture into the atmosphere in the form of water droplets (ie condensation). This water will damage the internal structures of the building, such as wooden timbers, over the long term and reduce the thermal performance of the insulation. As little as 3% moisture deposited within the interstitial layer can reduce the stated thermal performance of some types of insulation by 30% or more.

## AVCLs as Vapour Control Layers

Novia AVCL products are used to manage the transition of water vapour through the building envelope. Water vapour is initially present in a building due to the construction process, but it continues to be generated on an on-going basis as a result of occupants general use of the building (for example steam from showers & kitchens etc). One way that water vapour moves through the building envelope is by the process of diffusion, whereby it passes directly through a material rather than via any breaks or holes in the structure itself. However, direct moisture diffusion through materials is not the only way that water vapour moves through a building structure.

## AVCLs as Air Leakage Barriers

Novia AVCL products will also prevent the unwanted movement of air through any physical holes within the structure, a process which is referred to as air leakage, which is a naturally occurring effect caused by the heat transfer process of convection. Prevention of air leakage is vital to reduce expensive convection energy losses and improve the energy efficiency of the final construction. This is achieved by installing a sealed and airtight barrier in the building envelope. Air leakage will also lead to the deposit of large amounts of unwanted moisture in the same way as vapour diffusion does, and installations that do not take account of these issues will inevitably have serious problems.

## Other Notes

- A Novia Breather Membrane should usually be installed on the cold side of the structure to allow easy release of excess moisture vapour into the atmosphere, whilst also performing the task of a secondary protection membrane and preventing penetration by external environmental impurities such as dirt and rain.
- Novia stocks a wide range of grades and sizes of AVCL membranes and will always have one to suit your particular requirements readily available, including our reflective grades which improve the achieved U and r values of any given construction when installed facing a minimum 25mm cavity.
- For the optimum effectiveness of any Air & Vapour Control Layer ensure that the building is constructed fully in accordance with all current Building Regulations and Standards.
- Always handle material carefully to prevent tears and punctures. Repair any on-site damage with Novia tapes.
- All Novia products should be stored horizontally, indoors and out of direct sunlight. External storage must be on a temporary basis. When stored externally, Novia products should be covered and protected from exposure to weather conditions, especially wind, rain, frost and UV. Pallets should not be stacked.

This datasheet represents the latest understanding of the subject. However, it is for the ultimate user to determine suitability of Novia products within specific applications. The advice and information we have provided is general in nature, and is subject to future revision.

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